

1 WHAT IS CLAIMED IS:

1. A programmable gain amplifier (PGA) comprising:
an input that receives an input signal to be amplified;
5 a plurality of impedances coupled to divide the input signal into a plurality
of voltage levels;
a plurality of amplifier circuits coupled to receive the plurality of voltage
levels;
and a plurality of switches that disconnect each of the amplifier circuits
10 from a power supply, thereby deactivating each amplifier.
2. A programmable gain amplifier as in claim 1, wherein the plurality of
switches that disconnect each of the amplifier circuits from a power supply, disconnect
each amplifier by disconnecting the each amplifier from ground.
- 15 3. A programmable gain amplifier as in claim 1 wherein the plurality of
switches that disconnect each of the amplifier circuits from a power supply, disconnect
each amplifier by disconnecting the each amplifier from the power supply voltage.
- 20 4. A programmable amplifier as in claim 1 wherein the plurality of switches
comprise a plurality of semi-conductor devices.
- 25 5. A programmable amplifier as in claim 1 wherein the plurality of amplifiers
comprise a plurality of semi-conductor devices.
- 30 6. A programmable gain amplifier as in claim 5 wherein the semi-conductor
devices comprise MOS (metal oxide semi-conductor) devices.
- 35 7. A PGA as in claim 5 wherein the semi-conductor devices comprise MOS
semi-conductor devices.
8. A method for providing a programmable amplification for a signal, a
method comprising:
dividing the signal to be amplified into a plurality of signals;

coupling each of the divided signals into an amplifier circuit having a power source;
enabling a selected amplifier to select a programmable gain; and
removing the power source from a plurality of non-selected amplifiers.

9. A method as in claim 8 wherein the removing of the power source from the plurality of non-selected amplifiers comprises disconnecting ground connection from the plurality of non-selected amplifiers.

10. A method as in claim 8 wherein removing the power source from the plurality of non-selected amplifiers comprises disconnecting a power supply connection from the plurality of non-selected amplifiers.

11. A programmable gain amplifier as in claim 1, wherein the programmable gain amplifier of claim 1 is a first PGA further comprising:
a second PGA configured to receive a voltage level from the first PGA, the second PGA comprising:
a plurality of impedances coupled to divide the voltage level from the first PGA into a plurality of voltage levels;
and a plurality of switches that couple said plurality of voltages into a buffer amplifier circuit.

12. A PGA as in claim 11 wherein the switches are semi-conductor switches.

13. A PGA as in claim 12 wherein the semi-conductor switches are MOS devices.

14. A PGA as in claim 11 further comprising a circuit that operates a number of adjacent switches, of the plurality of switches, concurrently.

15. A PGA as in claim 14 wherein the plurality of switches further comprises a plurality of switches in parallel that couple the highest voltage level from the plurality of impedances into the buffer amplifier.

1 16. A PGA as in claim 14 wherein the plurality of switches further comprises
a plurality of switches in parallel that couple the lowest voltage level from the plurality
of impedances into the buffer amplifier.

5 17. A PGA as in claim 15 wherein the number of switches in parallel is the
same as the number of switches operated concurrently.

 18. A PGA as in claim 16 wherein the number of switches in parallel is the
same as the number of switches operated concurrently.

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